

What is claimed is:

1. A power transfer mechanism comprising:
  - an input;
  - a first output;
  - 5 a speed reduction drive path driveably connected to the input and first output, for driving the first output at a slower speed than a speed of the input;
  - a coupler for releaseably connecting the input and first output;
  - a second output;
  - a transfer drive continually driveably connecting the first output and second
  - 10 output;
  - a clutch for releaseably connecting the speed reduction drive path and the first transfer drive.
2. The mechanism of claim 1, wherein the speed reduction drive path  
15 further comprises:
  - a layshaft spaced laterally from the input;
  - a pinion secured to the input;
  - a gear supported on the layshaft, and driveably connected to the pinion;
  - a second pinion supported on the layshaft and secured to the gear; and
  - 20 a second gear secured to the first output, and driveably connected to the second pinion.
3. The mechanism of claim 1, wherein the second gear includes clutch  
teeth and the coupler includes:
  - 25 a hub secured to the input, including spline teeth formed at a radially outer surface; and
  - a sleeve supported on the hub for displacement relative to the hub, including clutch teeth continually engaged with the spline teeth on the hub and alternately engaged with, and disengaged from the clutch teeth on the second gear as the sleeve
  - 30 moves on the hub.
4. The mechanism of claim 1, further comprising:
  - a layshaft spaced laterally from the input, and wherein
  - the input and first output are coaxial; and
  - 35 the second output is spaced laterally from the first output.
5. The mechanism of claim 1, wherein the transfer drive includes:
  - a first sprocket wheel rotatably supported on the first output;
  - a second sprocket wheel secured to the second output; and
  - 40 a drive chain driveably engaged with the first sprocket wheel and the second sprocket wheel.
6. A power transfer mechanism comprising:
  - an input;

a first output;  
a coupler for releaseably connecting the input and first output;  
a second output;  
a speed reduction drive path including a pinion secured to the input, a gear  
5 journaled on the layshaft and driveably engaged with the pinion, a second pinion  
journaled on the layshaft, a second gear secured to the first output and driveably  
engaged with the second pinion, for driving the first output at a lower speed than a  
speed of the input;  
a first clutch for releasably connecting the first gear and the second pinion; and  
10 a second clutch for releasably connecting the second gear and the transfer drive.

7. The mechanism of claim 6, wherein the second gear includes clutch  
teeth and the coupler includes:  
a hub secured to the input, including spline teeth formed at a radially outer  
15 surface; and  
a sleeve supported on the hub for displacement relative to the hub, including  
clutch teeth continually engaged with the spline teeth on the hub and alternately  
engaged with, and disengaged from the clutch teeth on the second gear as the sleeve  
moves on the hub.

8. The mechanism of claim 6, further comprising:  
a layshaft spaced laterally from the input, and wherein  
the input and first output are coaxial; and  
the second output is spaced laterally from the first output.

9. The mechanism of claim 6, wherein the a transfer includes:  
a first sprocket wheel rotatably supported on the first output;  
a second sprocket wheel secured to the second output; and  
a drive chain driveably engaged with the first sprocket wheel and the second  
30 sprocket wheel.

10. The mechanism of claim 6, wherein the first clutch includes:  
first friction elements secured to the gear;  
second friction elements secured to the second pinion and interleaved with the  
35 first friction elements;  
a hydraulic cylinder supported on the gear;  
a piston located in the cylinder for displacement toward and away from the first  
and second friction elements, the displacement alternately causing frictional contact  
among the first and second friction elements, and mutual release of said frictional  
40 contact, whereby the gear and first pinion are releasably driveably connected.

11. The mechanism of claim 6, wherein the second clutch includes:  
third friction elements secured to the second gear;

fourth friction elements secured to the transfer drive and interleaved with the third friction elements;

a hydraulic cylinder supported on the gear; and

- 5 a piston located in the cylinder for displacement toward and away from the third and fourth friction elements, the displacement alternately causing frictional contact among the third and fourth friction elements, and mutual release of said frictional contact, whereby the second gear and transfer drive are releasably driveably connected.

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